# A LICHEN NEW TO THE UNITED STATES.

BY EUGENE A. RAU.

Messrs. Eckfeldt & Calkins, in their list of the Lichen-Flora of Florida, published in a recent number of this JOURNAL, include some rare and interesting species. In regard to their No. 297, *Trypethelium heterochrous* (Mont.) Tuck., very rare, introduced from Cuba, I would beg to remark that I collected this lichen in April. 1885, and sent specimens to Dr. Eckfeldt for identification. For the benefit of those who have opportunities to search for lichens in Florida, I will mention that this rare species was found along the shore of Lake Osceola, Winter Park, in Orange county, growing upon living branches of *Ilex Dahoon*, Walt.

# NEW WESTERN UREDINEÆ.

BY S. M. TRACY AND B. T. GALLOWAY.

Among the *Uredineæ* collected last summer by Tracy & Evans, we find the following species which appear to be new:

UROMYCES ARIZONICA, Tracy & Gal.—I. Hypophyllous; spots conspicuous, rather large, pale; æcidia numerous, in definite clusters, scattered or often crowded, small, short, border often somewhat coarsely torn; spores subglobose, epispore thin, smooth, 18—21 μ.—II and III. Epiphyllous; spots small, round or oval, reddish-brown, long covered by the epidermis.—II. Spores oval, pale, epispore thin, minutely echinulate, 20—22 x 23—25 μ.—III. Spores globose or obovate, apex sometimes slightly thickened, brown, 20—22 x 25—27 μ; pedicel one and a half to two times the length of the spores, hyaline, tapering towards the base. On leaves of *Eriogonum racemosum*, Flagstaff, Arizona, June 27, 1887.

PUCCINIA FRAGILIS, Tracy & Gal.—III. Amphigenous; sori scattered, long covered by the epidermis, which at length is irregularly ruptured; spores broadly oval, dark brown, minutely roughened, 21—33 x 30—34 μ, apex rounded, obtuse, not thickened, very slightly constricted, pedicel less than half the length of the spore, hyaline, very fragile. On leaves of *Arenaria pungens*, Reno, Nevada, June 19, 1887.

PUCCINIA CAULICOLA, Tracy & Gal.—II. Hypophyllous; sori very small, very numerous, covering the entire surface; spores subglobose, epispore thick, minutely roughened, usually with one or more prominent vacuoles, light brown, 15—17 x 20—22 μ.—III. On stems; sori scattered, usually elongated, black; spores oval, not constricted, 25—27 x 35—40 μ; apex much thickened, nearly hyaline, often with a similar thickening on one side of the lower cell, smooth; pedicel nearly hyaline, very long, several times the length of the spores. On *Salvia lanceolata*, Canon City, Colo., Aug. 21, 1887.

PUCCINIA VERTI-SEPTA, Tracy & Gal.—II and III. Amphigenous; sori prominent, black, round.—II. Spores oval, pale brown, 20—22 x 23—25 μ, epispore thick, slightly roughened.—III. Spores compressed-globose, divided by a distinct vertical septum, thus making each cell short boat-shaped, 28—30 x 34—35 μ; epispore thick, coarsely tuberculate; apex thickened, pedicel very long, variously bent and curved, hyaline. On leaves of *Salvia ballotæflora*, New Mexico, August.

ÆCIDIUM DRABÆ, Tracy & Gal.—Hypophyllous; æcidia scattered over the entire surface, bright yellow, large, border lacerate or coarsely fringed, spreading; spores globose or oval, greenish-yellow, epispore thick, smooth, 18—21 x 24—28 μ. On leaves of *Draba aurea*, Coolidge, New Mexico, June 20, 1887.

ÆCIDIUM HELIOTROPII, Tracy & Gal.—Amphigenous; spots not large, definite, purplish; æcidia pale yellow circinating, large, very long, the length about four times the diameter, border entire or sometimes lacerate; spores subglobose, epispore thin, minutely roughened, 16—19 μ. On leaves and stems of *Heliotropium curassavicum*, Albuquerque, New Mexico, June 17, 1887.

ÆCIDIUM ELLISII, Tracy & Gal.—Amphigenous; spots rather small; æcidia in definite clusters, often circinate, large, surrounded at the base by the ruptured epidermis, which is quite distinct, light orange-yellow, border lacerate; spores subglobose, with numerous vacuoles, epispore thick, slightly roughened, 18—22 μ. On leaves of *Chenopodium album*, Albuquerque, New Mexico, June 16, 1887.

ÆCIDIUM LEPIDII, Tracy & Gal.—Spots conspicuous; æcidia prominent, circinating, short, irregularly torn, soon becoming somewhat pulverulent; spores subglobose, epispore thin, 12—14 μ. On leaves of *Lepidium montanum*, Utah, July, 1887.

## AGARICS OF THE UNITED STATES—GENUS PANUS.

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The whole fungus is fleshy-coriaceous, tough, drying up, of fibrous texture, which radiates into the hymenium; gills concrete with the hymenophore, unequal, at length *coriaceous, edge quite entire;* spores even, white, somewhat cylindrical in species which have been examined. Growing on wood, various in form, lasting long. A genus which must be inserted in this series (between *Lentinus* and *Xerotus*) on account of its flesh, which is pliant and somewhat coriaceous, even in the gills, allied to the *Lentini*, but differing from them in the firmer, coriaceous and very entire gills. Either poisonous or owing to the toughness of the substance not suitable for eating. Fr. Hym. Eur., p. 487, Stevenson, British Fungi, Vol. II, p. 158. Name, *Panus*, a swelling or tumer, given to an arboreal fungus by Pliny, vide Fr. Epicr., p. 396.